process themselves. It's a different problem, very interesting in itself, but the regulation of these receptors by serin threonin phosphorylation is only a minor issue in these two contributions which, in an edited book, could have been more coordinated.

In the final chapters of ionic channels, phosphorylation reappears as a major regulatory process. A more coordinated presentation or a comparison of the different channels would again have been very useful.

On the theme 'Regulation of cellular signal transduction pathway by phosphorylation', much useful information – which may probably be found scattered elsewhere – is put side by side in this book. The editors clearly made the effort of coordinating the theme and the titles of the contributions, could they have also better coordinated their content?

Marc Chabre

PCR; by C.R. Newton and A. Graham, BIOS Scientific Publishers Limited, 1994; xii + 161 pages. $ 16.00/$ 30.00 (pbk). ISBN 1 872748 82 1

The book provides an overview of the properties of PCR and some of its applications. Some of the chapters of the book contain very basic information, such as a detailed description of the chemical structure of DNA. These parts of the book should be useful for persons with no previous experience of DNA techniques. Other chapters again, like the one describing the complicated issue of quantitative PCR analysis, are too brief and require previous knowledge of DNA techniques to be comprehensive. Because the level of difficulty and amount of detail given varies highly from chapter to chapter it is somewhat unclear who the potential readers of the book should be.

The book is divided into two parts; Part I describes the principles of PCR in three chapters, and Part II reviews modifications and applications of PCR in 13 very brief chapters. Especially Part I of the book, which comprises about one fourth of the text, should be useful reading for PCR-beginners. The second chapter is in my opinion the most informative part of the book. The chapter provides an extensive summary of available PCR instruments, reagents and consumables, which may be valuable also for scientist already familiar with PCR-based methods. The chapter also gives some good advice for setting up PCR reactions in practice. In this chapter, as in some of the later chapters, the authors creditably explain the effects of the PCR components and reactions conditions on each of the steps of the amplification process. These explanations will help the reader to understand the PCR process and hence the use of PCR as a 'black box' for making DNA can be avoided.

The seven first chapters of Part II describe the use of PCR as a tool for genetic engineering. Most of the PCR-based methods that have been developed for cloning, modification and sequence determination of DNA fragments are mentioned. The chapters give the reader a general idea about the many possibilities of PCR and the numerous figures included in each section clarify the principle of the methods. The text is, however, very concise and without previous knowledge or further reading it may be difficult to understand or to use the methods in practice.

In the latter half of Part II of the book, which deals with applications of PCR, the problem of trying to include too much in too little space becomes evident. Several of the chapters are superficial and uninformative. To describe the human genome mapping applications of PCR in four pages, or the PCR-based detection of clinically important bacteria in a single page are impossible tasks. More references to original work would have increased the informativity of these chapters, as well as of most of the other chapters of the book. In part of the chapters the content is illogical in relation to the title. For example the chapter on fingerprinting contains a section on HLA-typing. Instead this chapter could have been entitled genotyping, and a section about forensic analyses, a field which has been benefitted largely from PCR-based methods could have been included here. The chapter on characterizing unknown mutations is appropriate, it explains clearly the principles of the three most important methods used for this purpose. However, the content of the chapter of analysis of known mutations is biased in favour of the ARMS-assay that the authors of the book have been involved in developing, while other promising methods for detecting known mutations are not mentioned even in the section on infrequently used other methods.

The glossary of basic terms, the list of suppliers of PCR reagents and equipment, and the list of other books on PCR given as appendices can be useful for the readers of the book, while the list of PCR-related patents in the last appendix is incomplete and seems unnecessary.

To cover all aspects of PCR in a book of 160 pages is a heroic effort. In my opinion the authors have been only partially successful in this effort. In the best parts of the book the properties of PCR and the principles of the methods used to analyze PCR products are well explained. The main limitation of the book is the deficient description of the wide applications of PCR.

Ann-Christine Syvänen